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Test Certificate for Type Approval

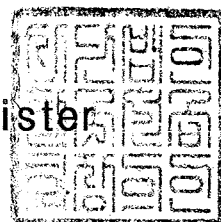
Applicant	company name	Sunbo Industries. Co., Ltd. and DSEC Co., Ltd
	Representative	Choi Geum-Sik (Sunbo) KIM Man-Soo (DSEC)
	corporate registration number	603-81-28937 (Sunbo) 607-81-36685 (DSEC)
	Address	80 Dasan-ro, Saha-Gu, Busan, Republic of Korea (Sunbo) 67, Chungjang-daero 13beon-gil, Jung-gu, Busan (DSEC)
Manufacturer	company name	Sunbo Industries. Co., Ltd. and DSEC Co., Ltd
	Address	80 Dasan-ro, Saha-Gu, Busan, Republic of Korea (Sunbo) 67, Chungjang-daero 13beon-gil, Jung-gu, Busan (DSEC)
Type and model		- BlueZone™ System (Ozonation) - DNS 250, DNS 500, DNS 600, DNS 1000, DNS 1500, DNS 2000, DNS 2400, DNS 3000, DNS 4000, DNS 5000, DNS 6000
Treatment rated capacity		250, 500, 600, 1000, 1500, 2000, 2400, 3000, 4000, 5000, 6000 m ³ /h
date of manufacture and serial no. of the product		- Ozone Generator : UK-CFS14 2G 3022 / 2013 - Collision device : CD250-1405-001 / 2014. 05. 15 - Ozone injection chamber Assembly : OC250-1405-001 / 2014. 05. 06
kind of approval test		conformity test

This is to certify that the BlueZone™ System is satisfied in accordance with article 17 in 「Ballast Water Management Act」 of Ministry of Oceans & Fisheries and Guideline G8(resolution MEPC.174(58)) of BWM Convention 2004.

31st July 2015



President of Korean Register



TEST REPORT

1. Applicant

Name : Sunbo Industries. Co., Ltd. and DSEC Co., Ltd
Address : 80 Dasan-ro, Saha-Gu, Busan, Republic of Korea (Sunbo)
67, Chungjang-daero 13beon-gil, Jung-gu, Busan (DSEC)

2. Products

Name : Ballast Water Management System
Model/Type : BlueZone™
Manufacturer : Same as applicant
Product under the test : DNS 250

3. Test Standard/Method : Appendix 5 of Regulation for Ballast Water Management of Ministry of Oceans and Fisheries (PR No.2015-37)

4. Test Results : Satisfied

5. Use of Report : Conformity Test for Type Approval

6. Date of test : May 22 to 29, 2015

7. Date of Issue : July 31, 2015

Tested by



Seo Seong-jin

Marine & Ocean Equipment Team

Approved by



Choi Jong-yuel

Marine & Ocean Equipment Team

The test results contained apply only to the test sample(s) supplied by the applicant, and this test report shall not be reproduced in full or in part prior to the approval of Korean Register.

Certificate number of Conformity Test : HDOBW-0011-15

KOREAN REGISTER

STAIN-415(1/3)(2015.4)

8. Description

- 1) This approval is granted on the basis of the conformity test of DNS 250 (TRC 250 m³/hr), has been carried out on board M/V Sawasdee Bangkok from 22nd to 29th May 2015, with the documents submitted by the applicant.
- 2) BlueZone™ shall not be installed in explosive hazardous area.
- 3) BlueZone™ shall not be installed on exposed weather deck.
- 4) The manufacturer should inform this Society of all kinds of revisions of the softwares. If the changes are recognized to affect functionality of the approved system, appropriate tests to confirm the reliability of the revised software may be performed in the presence of our surveyor.
- 5) Manual operation mode shall not be used on individual vessel in accordance with 3.1) of Appendix 5 of Regulation for Ballast Water Management (Regulation 2015-37).

9. Summary of Test Results

No.	Test Items	Results
1	1. 1) of Appendix 5 of Regulation 2015-37	Satisfied
2	1. 2) of Appendix 5 of Regulation 2015-37	Satisfied
3	1. 3) of Appendix 5 of Regulation 2015-37	Satisfied
4	1. 4). (1) of Appendix 5 of Regulation 2015-37	Satisfied
5	1. 4). (2) of Appendix 5 of Regulation 2015-37	Satisfied
6	1. 4). (3) of Appendix 5 of Regulation 2015-37	Satisfied
7	1. 4). (4) of Appendix 5 of Regulation 2015-37	Satisfied
8	1. 5). of Appendix 5 of Regulation 2015-37	Satisfied
9	2. 1). (1) of Appendix 5 of Regulation 2015-37	Satisfied
10	2. 1). (2) of Appendix 5 of Regulation 2015-37	Satisfied
11	2. 1). (3) of Appendix 5 of Regulation 2015-37	Satisfied
12	2. 1). (4) of Appendix 5 of Regulation 2015-37	Satisfied
13	2. 1). (5) of Appendix 5 of Regulation 2015-37	Satisfied
14	2. 2) of Appendix 5 of Regulation 2015-37	Satisfied
15	2. 3). (1) of Appendix 5 of Regulation 2015-37	Not applicable to explosive hazardous area
16	2. 3). (2) of Appendix 5 of Regulation 2015-37	Not applicable to explosive hazardous area
17	2. 4). (1) of Appendix 5 of Regulation 2015-37	Satisfied
18	2. 4). (2) of Appendix 5 of Regulation 2015-37	Satisfied
19	3. 1) of Appendix 5 of Regulation 2015-37	Satisfied

20	3. 2) of Appendix 5 of Regulation 2015-37	Satisfied
21	3. 3) of Appendix 5 of Regulation 2015-37	Satisfied
22	3. 4). (1) of Appendix 5 of Regulation 2015-37	Satisfied
23	3. 4). (2) of Appendix 5 of Regulation 2015-37	Satisfied
24	3. 4). (3) of Appendix 5 of Regulation 2015-37	Satisfied
25	3. 5) of Appendix 5 of Regulation 2015-37	Satisfied
26	4. 1) of Appendix 5 of Regulation 2015-37	Not applicable to explosive hazardous area
27	4. 2). (1) of Appendix 5 of Regulation 2015-37	Not applicable to explosive hazardous area
28	4. 2). (2) of Appendix 5 of Regulation 2015-37	Not applicable to explosive hazardous area

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